REPORT TO THE ONTARIO ECONOMIC COUNCIL ON THE SUBMISSION OF THE NIAGARA BASIC POWER USERS' COMMITTEE TO THE GOVERNMENT OF ONTARIO

By A. W. Currie

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This report does not attempt to summarize all the numerous points which are contained in several documents filed by the Niagara Basic Power Users' Committee (hereafter called the Users or N.B.P.U.C.) and by the Hydro-Electric Power Commission of Ontario (hereafter called Hydro). Neither does this report cover all the points raised in the discussions I have had with representatives of the Users and of Hydro. To chase down all the points raised by both parties would involve a great deal of time and expense. Although the report makes a few positive suggestions, in the main it is concerned with various approaches which might be made to the problem and which the Economic Council might like to explore further. I have assumed that I was expected to deal with the broader problem and not give categorical answers, even if I were able to do so, to all the short-run or immediate difficulties faced by the Users.

The Problem

Briefly, nine long-established industries in the Niagara Peninsula, which produce chemicals, metals, abrasives, newsprint, wall-board and allied products, complain that since 1949 their rates for hydro-electricity have risen by 41 percent. This seems to be a rather higher rate of increase than that borne by many other customers of Hydro. At all events, the Users are finding it increasingly difficult to sell in the world market,

and especially in the United States where most of their out put has been going. The recent devaluation of the Canadian dollar will not be of great assistance to some of the Users because they have to import many of their raw materials. Executives of these companies say that if present trends continue, they may eventually be forced to move to Quebec. One of the group, Atlas Steel, is now erecting a $40 million plant near Sorel. Others have either expanded their operations in the United States (through their parent companies) or have started entirely new plants overseas, e.g., in Sweden.

If the burden of the complaints of N.B.P.U.C. were limited to rising costs in Canada and increasing competition abroad, the submission should be rejected at once. Much as I regret loss of industry and reduction of employment in Ontario, I can see no more justification for public assistance to these industries than to the numerous other firms in more or less the same position.

Besides, representatives of these industries do not allege that higher rates for hydro-electricity are the sole cause of their present troubles. Nor do they assert that they will at once discontinue all their operations in Ontario if rates for industrial power in this province continue to rise and if the rate-making policies of Hydro remain unchanged. What they do say is that if present trends keep on, they will have to transfer some of their operations elsewhere (i.e., those which use a great deal of power relative to the value of the product). They hope that, even if power rates keep climbing, they will be able to convert at least some of their operations to those kinds of production that involve using less power and the same or perhaps even more labour. They anticipate, however, that

conversion to other kinds of products cannot be successfully accomplished and that their demand for labour in Ontario will decline. Some reduction in their labour force has already occurred but I was unable to break down the figures among various possible causes, such as higher hydro-electric rates, improved efficiency, and seasonal fluctuations.

To be more specific, the newsprint mill could, at considerable expense, be converted to the manufacture of fine paper, like letterheads and ledger paper. But these latter markets are already over-crowded. For a new firm to get established in this market would require time, effort, and capital. In the short run, the company would certainly lose money and might not make anything in the long run. Thus, the opportunity to shift away from power-intensive kinds of production to labour-intensive industries is not as good as appears on the surface.

But the case of the Users is not fundamentally based on the need for what has, inaccurately, come to be called a subsidy. These industries feel that they have a number of legitimate grounds for asking for a revision of their existing contracts with Hydro. These grounds include (a) Hydro will make only relatively short-term contracts for power and so these industries are reluctant to embark on long-run (30 year) capital investments in the Niagara Peninsula (b) they are not being given the benefit of their location within 12 miles of power plants. Conversely, the policy of Hydro to equalize rates throughout the Province favours industrial users who are distant from power plants or who, for one reason or another, have to use high-cost power. This policy discriminates against N.B.P.U.C. (c) they are disturbed by the promotional activities of Hydro (d) finally, they are upset by the lack of adequate machinery for dealing with the requests they have made and which, presumably, some other users of Hydro also have experienced.

Some Requests of N.B.P.U.C. Already Disposed of

Before dealing with the above points one after the other , one should note that Hydro has already gone part way in meeting the requests of N.B.P.U.C. In a letter of January 31, 1961, the Secretary of Hydro answered questions raised by the Users about the purpose of the rate stabilization reserve, the sinking fund, interest rates, and the like. In January, 1962, another document of the H.E.P.C. dealt with such matters as quantity discounts, 'at will' power, and the inclusion of strikes in the list of causes of force majeure which would remove the requirement that a company pay the minimum monthly charge stipulated in the contract even though it used very little power as the result of a strike. As the Users did not bring up these points in their discussions with me, I assume they are satisfied with Hydro's answers.

A compromise was reached on rates for interruptible power. Briefly, industrial users commonly contract for firm power (i.e., hydro-electricity which they expect to use hour after hour, day in and day out, the year round). They are charged so much per kilowatt for this power. In the case of N.B.P.U.C. the present rate is $3.00 a month. Subject to a few escape clauses, Users pay for this power whether they use it or not, and Hydro undertakes to supply it continuously. When members of N.B.P.U.C. require electricity beyond the base or firm amount, they pay for it at an agreed percentage of the rate for firm power. This extra power may be interrupted or cut off by Hydro under certain conditions which are set forth in the contract. If the customer wants to make sure that the extra power he needs will not be interrupted by Hydro, he is free to enter into another

contract for this power. In this event he will have to pay a rate which is not primarily based on the rate for firm power.

N.B.P.U.C. asked Hydro to reduce the rate for Interruptible power from 85 per cent of the rate for Firm power to 70 per cent of that rate. Effective January 1, 1961, Hydro reduced the rate on what is now called Interruptible Class A power to 82 per cent of the Firm rate of $33.00. It also introduced new, lower rates for Interruptible Class B power at 74 per cent of $33.00.

Apart from rates, the essential difference between these two classes of Interruptible power lies in the contractual conditions which permit interruptions. In layman's language, Firm power is relatively permanent: Interruptible Class A is semi-permanent: Interruptible Class B is more liable to be cut off. Users say that the conditions permitting Hydro to interrupt Class B power are so numerous and so likely to arise that Interruptible Class B power will be of little or no use to them. In short, the new class of Interruptible power is a concession on paper but not in practice.

I have no way of evaluating the soundness of the Users' criticism. In order to reach a tolerably satisfactory answer one would have to analyze the past records of Hydro in this area with particular reference to the demands of these customers and to the probability of interruptions. Then one would have to try to predict what will happen in future when the size of the load on Hydro's generating capacity will have risen above its present level. A Hydro official explained that some members of N.B.P.U.C. are able to interrupt or stop part of their operations without materially increasing such costs as wages paid to idle labour. Interruptible Class B power is available to other customers of Hydro as well as N.B.P.U.C. but it is of particular value to the latter consumers because of the nature of their operations. In the end, only

experience can determine whether Hydro or Users are right in their opinion about the value of Interruptible Class B power to N.B.P.U.C.

Another problem closely associated with the question of Interruptible power was the Users' request to increase the load factor limit on the demand rate from 70 to 85 per cent. Under present contracts, Users agree to pay a Firm rate for the right to use throughout every 24-hour period an amount of power equal to 70 per cent of the maximum power which a customer would need if all his machines were working simultaneously at full capacity.

Atlas Steel is in a somewhat different position from other Users. It requires large amounts of power to heat up its furnaces. After one batch of steel is ready to run off, the electricity is shut off until the furnace has been re-charged with scrap and other raw materials. Thus, the electrical load of Atlas is not the same throughout every 24 hours as is the case with the paper and abrasive companies. Although Atlas Steel's demands are intermittent, it has the right to use its full complement of power anytime during the day or night. In other words, it is not necessarily an off-peak consumer of hydro-electricity.

For all practical rate-making purposes, every member of the group is in the same position as regards its demand for power. At present the base demand of each is 70 per cent of its maximum potential demand. Any customer who needs more than 70 per cent of his base demand, pays for the excess at Interruptible Class A or Interruptible Class B rates or at some other rate which is not presently a matter of dispute. Some Users want the load factor limit on the demand rate raised from 70 to 85 per cent on the ground that they continuously use 85 per cent or more of their maximum demand.

Hydro explained that the figure of 70 percent was selected because it approximates the average of the system and meets the needs of the manority of its customers. If the figure of 85 percent were chosen, Hydro would have to raise its demand rate from the present $33 per kilowatt to $38.25 per kilowatt. Further, acceptance of a load factor limit of 85 percent would be unfair to customers who operate at a load factor of less than 85 percent. These latter consumers would have to pay the higher Firm rate of $33.25 per kilowatt per month even though they did not, as a rule, use this much power continuously throughout the month.

In discussing this matter with representatives of N.B.P.U.C., I got the impression that whereas one or two companies were enthusiastic about the proposal, others were hesitant about supporting it. Therefore, as far as I could ascertain, this aspect of the problem should be left alone.

In its letters to the Users' explaining how the above requests were dealt with, Hydro tended to stress how advantageous its decisions were to its customers and neglected to mention that its decisions were also beneficial to itself. This attitude is natural, of course, but the correspondence from Hydro, standing by itself, may leave a false impression. Two groups of Hydro customers were not 'converted': N.B.P.U.C. members who were left on 25 cycle, and all customers in Eastern Ontario who have always been on 60 cycle. For obvious reasons neither of these groups is being charged the $5.00 per kilowatt per annum which has been assessed since June, 1954, to cover the cost of converting all other users. Hydro says that this concession has saved members of N.B.P.U.C. a total of well over $4.5 million over the years 1954-9. The members of this group will continue to save a million

dollars a year or more until they are converted to 60 cycle which will probably not be until about 1972 when Hydro's 25 cycle plant will have been fully amortized. These sums are in addition to saving these industries their share of the cost of converting the machinery in their plants.

What Hydro says is true: but Hydro has also saved itself its share of the cost of conversion, a substantial but indeterminant amount. Then too, Hydro says that "by risking a deficit position, we limited our 1960 rate increase to $2.00 per kilowatt for Firm power instead of an increase of $3.00 per kilowatt originally contemplated". N.B.P.U.C. did not seem to take much consolation from Hydro's inference that they should not complain because things might have been a lot worse. Further, this concession, if that is the proper name for it, applied to all industrial users of hydro-electricity and not merely to this group. Consequently, it can hardly be considered to meet in full the requests of N.B.P.U.C.

Yet, taking one thing with another, Hydro has dealt satisfactorily with many of the requests made to it. But I have the feeling that in their efforts to ease their position, N.B.P.U.C. threw a lot of things into the hopper which they knew they could not get and did not really deserve. If this is true, in the above complaints Hydro was dealing with at least some factors which were not very seriously advanced. In essence, the reasonably satisfactory handling of the preceding points merely narrowed the field of dispute between the two parties. Consequently it is necessary to turn to matters of more significance.

Term of Contracts

On the first of the important points, the length of time over which rates for power will continue unchanged, some progress has been made in meeting the desires of both parties. Users say that construction of a new plant or major expansion of an old one necessitates committing substantial amounts of capital for 30 years or more. They would like to be able to sign contracts for power at an agreed rate for 10 years at a time (they originally asked for 20) or at least for an initial period of 10 years with the right to renew at the same or modified rates for 5 years at a time. Such arrangements would put N.B.P.U.C. more or less on a par with large users of power in Quebec.

On the other hand Hydro prefers one-year contracts. Hydro officials call attention to the probability of increases in wage rates, construction costs, water rental fees, municipal taxes, and interest rates over the next few years. To these may be added the effects of the recent devaluation of the Canadian dollar which will increase the cost of servicing Hydro's funded debt, of which roughly one-fifth is payable in New York funds.

Hydro calls attention to another objection to very long contracts. Two of the Users made contracts with Hydro in 1945 and 1952. When these contracts expired in 1959 and 1960, the rates charged these users under their new contracts had to be increased sharply in order to take account of the considerable rise in wage rates, interest rates, and other costs which had occurred over the fairly long duration of two contracts. It can be argued that if rates for hydro-electricity to N.B.P.U.C. could have been

changed more frequently, the impact of the increases upon these Users would have seemedless serious than it was. The likelihood is great that over the next few years changes in wages and other costs will be as rapid as they have been since 1945. Therefore, so Hydro says, the contracts should be for shorter periods than formerly in order to protect both parties to the contracts. Moreover, according to Hydro, if rates for electricity were set for 10 years or more in advance, they would have to include amounts for contingencies and for anticipated increases in operating costs and carrying charges. In consequence, Hydro officials are of the opinion that Users would be no better off if the term of the industrial contracts was lengthened as requested by N.B.P.U.C.

Notwithstanding obvious risks which Hydro takes in lengthening the duration of its contracts, it decided in December, 1960, to make contracts with N.B.P.U.C. (and presumably with other industrial users whose contracts expired at about this time) for the period ending December 31, 1965, at the rates which prevailed on January 1, 1960. A longer term might have had the advantage of inducing more of the heavy users of hydro-electricity to locate in Ontario or at least remain here rather than go to Quebec. Nevertheless, five-year contracts seem about the best one can hope for in this uncertain world.

The very long contracts made in Quebec, New York State, and the Pacific Northwest can be justified on grounds which do not presently apply in Ontario, as explained later. In short, the situation in Ontario is not on all fours with those referred to by the Users.

Proximity to Power Resources

The essence of complaints on proximity to sources of power is this: although all the plants of N.B.P.U.C. are within 12 miles of the source of their power, their rates are set by the average of the cost of all power in the Province. Originally, rates in Southern Ontario were to be equalized but more recently rates of the Northwestern and eventually of the Northeastern systems (both in Northern Ontario) are to be melded or integrated with those of the Southern Ontario system. In the end, it will be immaterial as far as power rates are concerned where an industry is located. N.B.P.U.C. representatives argue that this is unjust. In their words, "the distance of customers from generating facilities should be a factor entering into the computation of transmission costs so that customers close to generating stations would pay lower rates than distant customers". Hydro's answer is that "it cannot take steps to subsidize specific industries or areas by charging less than cost for power supplied". Then it goes on to deal with changing conditions which gradually made previous methods of rate-making obsolete and required that revisions be made from time to time to meet the continuing load growth and expanding power grid.

As part of their argument, N.B.P.U.C. contend that, for the most part, they use 25 cycle power. Since this power is produced in two plants along the Niagara River, the Users assert that Hydro should segregate the costs of all facilities involved in the generation and transmission of 25 cycle power from the costs of the major part of the system which is on 60 cycle. Hydro's reply is that it would be physically and economically

impossible to do this. Some 25 cycle power is regularly converted into 60 cycle and vice versa. Consequently, there is no way of 'pulling out' the costs of some cycle power from the costs of all. Hydro has 50 generating stations which deliver power into the province-wide grid. Except in a general way, no one can tell where the electricity he uses at any one moment actually originates. This point can easily be exaggerated.
In general, it is the boundaries of the regions supplied mainly by particular stations which are pushed back and forth in accordance with the supply of, and the demand for, power in the particular area adjacent to the generating plant. The boundaries are not definite lines but zones. It is most unlikely that a consumer in Toronto will get power from the most distant source in the Province. Still, he is likely to use power generated along the Gatineau in Quebec. Within limits, Hydro is broadly correct in stating that it is impossible to trace the flow of power from its source over radial feeders to individual customers.

Moreover, in Hydro's view it would be unjust to try to trace power from generating plant to actual users. When the present 25 cycle plants were first placed in service, N.B.P.U.C. took only a small proportion of its total output. The rest of the output of the plant was used by others, chiefly by municipal customers and indirectly by domestic consumers. These users contributed, through their rates, towards the interest and depreciation costs of the original station. Such an arrangement was reasonable at the time: but conditions have changed. The cost of construction has risen steeply. Hydro now has to use power sites which are remote from markets or more expensive to exploit than the older sites because of seasonal fluctuations

in stream flow and the need for impounding large quantities of water behind dams. Hydro is already generating power at times of peak demand from coal, which is a good deal more expensive than water-power, and has arranged eventually to use atomic energy, which is still more expensive. If Hydro were to 'hive off' the 25 cycle facilities for the benefit of a particular group of customers, it would be giving them the benefits of favourably located sources which were developed years ago when prices were low, and it would require that new users pay rates on newer, far more expensive sources. So it says the only fair solution is to average all costs and, of course, all rates.

Expressed in economist's language, Hydro's argument is that marginal consumers should not pay marginal unit costs. Nor should all consumers pay prices equal to marginal unit costs, although this would be the result under conditions of perfect competition. If all units were sold at marginal unit costs, Hydro would make an enormous economic rent. For it would be selling all units at the same relatively high price but producing some of them at favoured sites and at relatively low cost.

By law, one of Hydro's prime responsibilities is to provide reliable power at the lowest possible cost consistent with prudent financial practices. Hydro interprets cost to mean average unit cost. In its view, any consumer who pays less than average unit costs is being subsidized. Therefore, the only fair and equitable arrangement is to charge every industrial user the same price per unit. In short, Hydro contends that if it accepts the arguments of N.B.P.U.C. and reduces their rates, it will be subsidizing them. Subsidies are unjust in themselves, contravene the legislation which governs Hydro, and run counter to the policy which the Government has adopted.

I am not wholly convinced of Hydro's contention that any aid to this group is a subsidy. This is a problem in internal or cross-subsidization. Every customer of a public utility or shipper or traveller pays enough to cover the out-of-pocket cost of providing him with the service but the amount which he contributes to the common costs of operating the utility, railway, or airline varies with the strength of his demand.

Hydro's contention is that new users should not pay rates per kilowatt or per kilowatt-hour which are directly related to the new and higher costs of generating power from new sources. Neither should old users benefit from the older and cheaper sources. All should pay the same. But this necessarily means that old users pay a higher proportion of the common costs than new users. New users get lower rates than they would otherwise have to pay, because old users pay rather more than they would if the new users and the new sources of power had not appeared. Hydro has assumed that by levelling all rates it has dealt with everyone equitably. The fact is that by adopting a policy of internal cross-subsidization, Hydro has helped some users and hurt others. It says that to help N.B.P.U.C. is wrong because any aid would constitute a subsidy. It overlooks the fact that its present policy of uniform rates constitutes a subsidy to new users who, in the absence of uniform rates, would have to pay more than they do.

Now, it may be asked, if the above analysis is correct, why have not all consumers complained when their rates are being raised, because of the creation of financial reserves for the generation of atomic power, the need for getting hydro-electricity from remote and expensive sites, and the

operation of thermal stations. The answer is that most consumers probably do not know what is going on. If they do, they may feel that because electricity is such a small part of their total cost of production or cost of living, the increase, actual and probable, is so small that it is not worthwhile making a fuss about. Moreover, those producers who use relatively small amounts of electricity can readily absorb the slightly higher cost or can pass it on to their customers in higher prices. Finally, consumers of Hydro may realize that because of the development of a province-wide and eventually of a national grid, the electricity which they use may come from a high-cost rather than from a low-cost source.

But N.B.P.U.C. are in a different position. Electricity is a major portion (15 to 25 per cent) of their manufacturing costs. (Parenthetically, I had a little trouble reconciling the above figures which are given at one point in their brief with some statistics they presented elsewhere. The explanation I got from representatives of N.B.P.U.C. were not entirely satisfactory). Nonetheless, it is certainly true that electricity is for them an important raw material whereas for many other manufacturers it is a fairly small percentage of their costs and in a way a more or less incidental expense N.B.P.U.C. sell in world markets. Though other costs besides that for electrical power have risen, the increases in expenses for power are apparently a major limitation on their ability to compete. Other companies or branch plants of these N.B.P.U.C. companies are locating where power is cheap, as at Beauharnois, in the Pacific North West or in Sweden. Unlike consumers whose power at any one

moment may come from any one of a number of sources, N.B.P.U.C. know that their power comes mainly -- indeed they say entirely -- from one or two of the old, low-cost sources. In short, they assert that the policy of equalization works against their interest. More specifically, I was informed that the cost per kilowatt of Ontario Paper at Thorold had increased 77 cents as a result of the pooling policy whereas the cost of Great Lakes Power in Northern Ontario has been reduced or is about to be reduced by $3.50.

It is obvious that both Hydro and N.B.P.U.C. tend to divide their arguments between what is right or fair, and what is economically sound. Courts of law have never attempted to lay down any universally applicable rules to ascertain the meaning of such terms as 'just and reasonable', 'fair and equitable', 'unreasonably discriminatory', and 'unduly prejudicial' as applied to the rates of railways, gas and electric companies, airlines, etc. Instead, the courts consider each case on its merits. Consequently, members of the Economic Council will have to make up their own minds on whether cross-subsidization is fair and equitable to all users of Hydro: if it is not, members of the Council will have to decide whether the extent of the inequity is so great that corrective action should be taken.

An analogy from my own profession may be relevant at this point. All undergraduates in the Faculty of Arts and Science (except in Commerce and Finance) pay the same fees for tuition, though some use a lot of expensive laboratory equipment, or go to the library more often, or submit very long essays, or generally use up more of their professors' time than other students. Costs of tuition vary from one student to another but fees are uniform, partly because of the technical problem of ascertaining the precise cost for one

student as compared with another, partly because discrimination in fees would interfere with desirable educational objectives by directing students into the cheaper courses when society might need them very badly and they might be much better fitted for some other course of study. But the principle of uniformity in fees regardless of the cost of education is carried only so far. For reasons of cost, different fees are charged for arts, medicine, applied science, dentistry, and theology. There is nothing unusual about uniform charges for services, even though the cost varies from one individual or group of individuals to another. Still, at some point or other differences in the cost of service become so great that uniformity in charges is no longer justified. Has that point already been reached in the industrial charges of Hydro?

Whatever the general conclusion on the above question, it may be desirable to take into account the costs of transmission. All customers of Hydro are using more electricity year after year. Therefore all customers, and not just the newly-added ones, are responsible for the need for developing new and expensive sources of power. But collectively, consumers are not responsible for the location of plants or of domestic consumers either close to the sources of power.or far away from them. Therefore, costs of power to municipalities and industries should, it seems to me, take distance of transmission in account. This is already done for power sold by Hydro at wholesale prices to municipalities. I think industries should not be denied the advantages of their location nor should the disadvantages of unfavourable location be neutralized by a policy of uniform rates.

A rough calculation made at my request by an official of Hydro is that cost of transmission is about 15 per cent of the wholesale cost of power to industrial and municipal users. The relationship between cost of transmission and distance is complicated. Two factors to be taken into account are the cost

of pylons, poles, etc., in the transmission line (which costs altogether as much as $100,000 a mile) and loss of power during transmission.

The law requires that the rates of Hydro should be based on cost. I question whether the word 'cost' in this connection legally means average cost, as Hydro has assumed. If it does, then no one can do anything until the law is changed. If 'cost' legally means something other than average cost, then Hydro is legally obliged to adjust rates for the distance of customers from their generating plants. I am not suggesting that it is practicable to vary rates precisely with distance. Variations by zones, as is the case in Quebec, is all that can reasonably be expected or justified. My own view, for what it is worth, is that the zoning principle should be adopted on the grounds of both elementary justice and cost.

Hydro's Rate-Making Policies in General

Consideration of the position of these Users inevitably raises the problem of the ultimate effect of pooling rates on the industrial development of the Province. If all rates are equalized, cost of electricity will cease to have any importance in determining the location of industry. This may be socially desirable and will have some economic advantages. In so far as population is dispersed and the possibility of further growth of enormous metropolitan areas is reduced, living in the Province will be more attractive. Years ago Sir Adam Beck made a great deal of this point. Yet excessive concentration of population has not been prevented, at least not to any appreciable extent. Now that the old policy has been revitalized, too much significance should not be attached to the social implications of uniform industrial rates.

More important is the effect of relatively uniform rates for electricity on the industrial structure of the province. The effect of the

policy is to raise the rates of older consumers of huge quantities of electricity on a 24-hour, year-round basis. In consequence, manufacturers of abrasives and of newsprint in Southern Ontario will be encouraged either to move their hydro-intensive operations elsewhere, or convert their present plants to products which require relatively little electricity in their manufacture. Perhaps they will eventually be forced to move all their operations of whatever nature outside the province. At the same time, pooling rates will reduce the costs of power to new industries which, in the absence of this policy, would have to pay the relatively high rates based on the cost of marginal units derived from expensive hydro-electric, thermal or nuclear sources. In this way, some industrial expansion is presumably stimulated.

It is hard to say what the net effect of this policy will be on the size and regularity of employment. There is little advantage in substituting a mine in Northern Ontario for an abrasive plant in the Niagara Peninsula as a customer of the same amount of power. It is conceivable that the new industries would be less vulnerable in a depression than those in the Niagara Peninsula which are displaced. They may be less dependent on overseas markets, or more stable because they cater to individual consumers rather than produce industrial raw materials. Without the gift of prophecy, no one can be sure.

What can be asserted with some confidence is that some of the policies of Hydro are hard to reconcile with its statements that our consumption of electricity is now growing so fast that we have to search out and develop dearer sources of supply. If this is true, one wonders why so much

effort is being made on radio and television to persuade people to 'live better electrically' or why a vast programme of research is being undertaken to open up a market for electricity in space heating. There may be many reasons why electricity is a more satisfactory source of heat for households, offices and even the new City Hall in Toronto than coal, natural gas, or fuel oil. Yet it seems unsound to push sales of electricity to domestic users to such an extent that industrial consumers of electric power are hurt. It is doubtless a fine thing to live better electrically: it is even better to make it possible for people to have jobs by keeping a rate structure that will promote employment.

In the past, promotion of so-called secondary demands for electricity (i.e., for flatirons, washing machines, toaster, stoves, and industries) could be justified because they used off-peak power, the peak demand for power, called primary demand, coming from households and street cars. Since Hydro and other hydro-electrical systems had to build their capacity large enough to meet the peak loads, it was proper that consumers at the peak pay relatively more than off-peak customers. Conversely, since electricity cannot be stored, it was better for Hydro to sell off-peak electricity at low rates rather than not sell it at all.

Consumers represented in N.B.P.U.C. were not, however, off-peak consumers and nothing more. Except for Atlas Steel, then a relatively small concern, they used power in large amounts 24 hours a day, seven days a week throughout the year. Atlas used power intermittently throughout the day and the week depending on its schedule of charging, heating, and drawing its furnaces. Even so, it was never confined to using power at off-peak times.

This was immaterial in the early days because Hydro and its predecessors had ample capacity to meet the demands of continuous users like most members of N.B.P.U.C., of an intermittent or continual user such as Atlas, and of consumers of electrical energy at the daily and seasonal peaks, i.e., domestic consumers and urban transit systems. Since their was plenty of power for all, the rates to continuous and continual users could be very low. This situation applies today in Quebec and the Pacific Northwest (Bonneville Power).

Over the years, conditions in Ontario have greatly changed, however. Total demand, peak demand (but not necessarily the peakedness, i.e., the ratio of peak to average or minimum demands), and the potential capacity of generating plants have all increased. Since about 1950, the provincial hydro-electric system has had to search out new and expensive sources of power to handle the peak loads. H.E.P.C. has by inference rejected the argument that the new or marginal customers should be charged rates based on the new, and much higher, marginal costs. If N.B.P.U.C. were users of off-peak power alone, the case for giving them relatively low rates would be much stronger than it is. The fact that they use continuous power or, in the case of Atlas, power that is as likely as not to come at the peak, contributes directly to the size of the peak. Since this is so, they should bear part of the responsibility, through their rates, for the need to reach out for new sources of power.

In my discussions with representatives of N.B.P.U.C., they stressed the economic advantages which Hydro got because it had this group of steady, year-round customers. The fact is that this group has both

advantages and disadvantages to Hydro under present-day conditions. Since their demands are both continuous and growing, they add to the total demand and the size of the peak. Therefore, they are forcing Hydro, in common with other users, to exploit costlier sources of power. Hence, they should get no rate concessions on this theory, which they advance that they are 24-hour users. Indeed, it can be argued that Hydro would be better off without these Users provided it could substitute off-peak users having the same aggregate demand as these 24-hour, seven-day-week consumers.

Two other arguments for lower rates were advanced by N.B.P.U.C. First, they helped the early Hydro system get on its feet. But so did the original 14 municipalities. Low rates for long patronage are simply not practicable. Second, in the early period and even to-day potential industrial users of electricity have the opportunity of developing their own sources of power. Therefore, Hydro had to meet the rates of potential competitors. If some industrial users did not get low rates from Hydro, they would either locate elsewhere in order to get low costs or they would not start up at all. Some companies in N.B.P.U.C. started in this area because the rates they got 50 years ago were about the lowest in the world. Without such rates abrasives could never have been manufactured at prices to compete with natural grindstones and flintstones. Hydro was wise to bid for these companies then. By the same token, it may be wise to bid for new users of power to-day, provided the interests of existing users are not sacrificed.

Representatives of N.B.P.U.C. have considered producing their own power from coal, but, they said, they would have to co-operate in the erection of a single plant to serve all the establishments and Hydro has a monopoly of the transmission network. Consequently, for the present, potential competition from these Users is not a factor in Hydro's determination of the rates they are to be charged.

I made some attempt to discover whether these companies were being seriously hurt financially by the increase in the rates for power. Only one company, Atlas Steel, seems to make its annual report available to the public and it clearly shows no signs of being ruined by higher rates. In general, the companies deplore the increase in their rates but they did not present a 'sob story'. They think that their request for some mitigation in tolls is sound on other grounds than reduction in their present profits.

Machinery for Dealing with Rates for Hydro-electricity

Under present legislation Hydro sets all its own rates subject to (a) rates for municipal users must be based on cost, and (b) new agreements with municipalities and corporations (including crown companies) must be approved by Order-in-Council. However, as mentioned earlier, there is no precise definition of the word, cost. Moreover, approval by the Cabinet seems to be pro forma. Under the Act establishing H.E.P.C., no appeal from its decision on rates may be taken to any court.

It can be argued however, that even if this report has no other positive result, it shows that re-consideration of Hydro's decisions is possible. Even so, N.B.P.U.C. are becoming a little exasperated at being shuttled between Hydro, two provincial premiers, the Economic Council, then

to me, and probably around the circle again. Representatives of the Users told me that they were told by several officials of Hydro that they recognized that N.B.P.U.C. faced a real problem but no one, so far, has made any move to solve it effectively. I mention this alleged run-around because the Economic Council may see its way clear to investigate the possibility of having more suitable machinery for handling dissatisfied customers of Hydro.

In making this suggestion, I think it only fair to warn members of the Economic Council that I have long been of the opinion that it was improper from many points of view to allow Hydro to set rates without permitting their review by the courts or by any other qualified body. Therefore, it is probable that the representatives of these Users, finding me sympathetic, spoke more frankly to me on this point than they have to Hydro officials. Further, a bargainer weakens his case if he becomes too critical of the other party or 'speaks out of turn' during negotiations. My point is that I want to protect myself from the possible insinuation that in suggesting better machinery for handling complaints on hydro-electric rates I am merely riding a hobbyhorse of my own and exaggerate the Users' complaints.

Lack of appeal from Hydro's decisions on rates could be justified as long as it was fighting an up-hill battle against privately-owned utilities in Canada and particularly in the United States which were anxious to discredit it. Those days are gone. Another justification for prohibiting appeals is that Hydro should be run along business lines and like any other

business should have the right to set its own prices. But Hydro is also a public utility and a monopoly. Perhaps for that reason it seems, at times, to lack the solicitous care for the interests of its customers which one has come to expect from business executives. More especially, I was told that when a contract is about to expire, H.E.P.C. sends a registered letter to the industrial customer stating what his rates will be for the ensuing contract period and asking him to return the enclosed contract, signed and sealed. Representatives of N.B.P.U.C. said that when they increase their own prices, they send out a senior executive to explain the reasons for the increase to each of their larger customers. Though it is true that representatives of N.B.P.U.C. have met officials of Hydro in Toronto from time to time to protest rate increases, on at least one occasion they went away thoroughly disgruntled. To be frank, a lot of the present trouble could have been forestalled if a former chairman of Hydro had not been so high-handed.

Under the law, Hydro must base its rates to municipalities on cost. It publishes its municipal rates in its annual report. There is no provision in the law to govern how rates to industrial users are to be determined and there is no way that any member of the general public can find out what the rates to various industrial consumers actually are. The contracts with all the relevant details are filed away in Hydro's head office. There is reason to believe that, notwithstanding Hydro's announced policy of equalizing industrial rates across the province, it sometimes quotes especially low rates to mines, newsprint mills, etc.

These are given in order to get a new industry started or because it is considering generating its own power by steam rather than buying from Hydro. Certainly, Hydro offered Atlas Steel particularly low rates if it would remain in Ontario instead of erecting a new $40 million plant near Sorel, Quebec.

Representatives of the Users have no more idea than any other member of the general public how common these special deals on rates are. What does concern them is that Hydro can make them without any member of the general public being any the wiser. They think some independent group should have power to review these special contracts from time to time in strict confidence.

N.B.P.U.C. were also disturbed because once an industry is well established -- as they said, once it becomes captive -- it falls within the overall policy of Hydro on the equalization of rates and its opportunity to get special consideration of its position has expired. At least, it has expired as far as these Users know. It is theoretically possible that every top executive in Hydro is spending sleepless nights over N.B.P.U.C. complaints but this is not very likely.

Now special deals could be justified as long as Ontario had a surplus of power and needed to build up a steady day-to-day year-round base load of demand. What concerns the Users is that Hydro is still continuing the old policy of increasing the base load as far as new customers are concerned. They doubt whether it is wise to raise demand at the present time, since it has the effect of compelling hydro to seek new and expensive sources of power. Moreover, they consider it unjust for Hydro to cut

rates to new customers while ignoring, so they say, the needs of captive customers. The representatives, being business men, do not object to Hydro making special arrangements with particular patrons where economic conditions justify low rates. What they do dislike is the lack of any regulatory body outside Hydro with the authority to check up on the soundness of special rates and insure that every customer is equitably treated.

Since the advisability of the establishment of a regulatory board lies on the fringe of my terms of reference, I content myself with the suggestion that the Economic Council may wish to study the matter at more length. Perhaps a relatively informal and inexpensive arrangement such as the Ontario Public Service Grievance Committee is all that would be needed.

Summary

Although a number of matters in dispute have been settled by discussion between the two parties and intervention by Premiers Frost and Robarts, there remain at least four topics still to be resolved. These topics, together with my recommendations on them, are as follows:

(a) to lengthen the term of contracts for power from 5 to 10 years or more seems to be impracticable from Hydro's standpoint.

(b) the problem of an equitable rate structure is enormously complex but I feel that these Users are entitled to some sort of reduction in their existing rates because they are all within 12 miles of the source of their power. This is not a subsidy but a recognition of cost.

(c) Hydro's intensive campaign to increase the domestic consumption of electricity should be carefully examined in the light of the rapid growth of demand from present customers and for present requirements, and the need to find and develop more expensive sources from electric-power sites in Northern Ontario, coal, and atomic power. A proper balance should be struck between providing the amenities of life and providing jobs in so far as low hydro-electric rates contribute to an increase in the volume of manufacturing.

(d) some machinery seems to be needed to deal with complaints such as this.

In sum, the requests of the N.B.P.U.C. are part of a much wider problem. My assignment was given to me verbally, not in writing. Hence, I cannot be certain that I have stuck within my terms of reference. I have the feeling that I have gone beyond them. Anyway, the gist of my report is that Hydro's policies need to be critically examined to make sure that the interests of the people of the Province, as consumers, are not placed too far above their interests as producers. Hydro-electric power is becoming a scarce resource. The pricing mechanizm is one means of rationing this resource among numerous uses. Care should be taken to set prices (i.e., rates) so that, besides covering the operating and other costs of Hydro, they will contribute to the long-run development of Ontario. Finally, since water is but one of several sources of light, heat, and power available to the people of Ontario, rates for hydro-electricity must take into consideration the use of coal, atomic energy, petroleum, and natural gas for the same purposes.

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